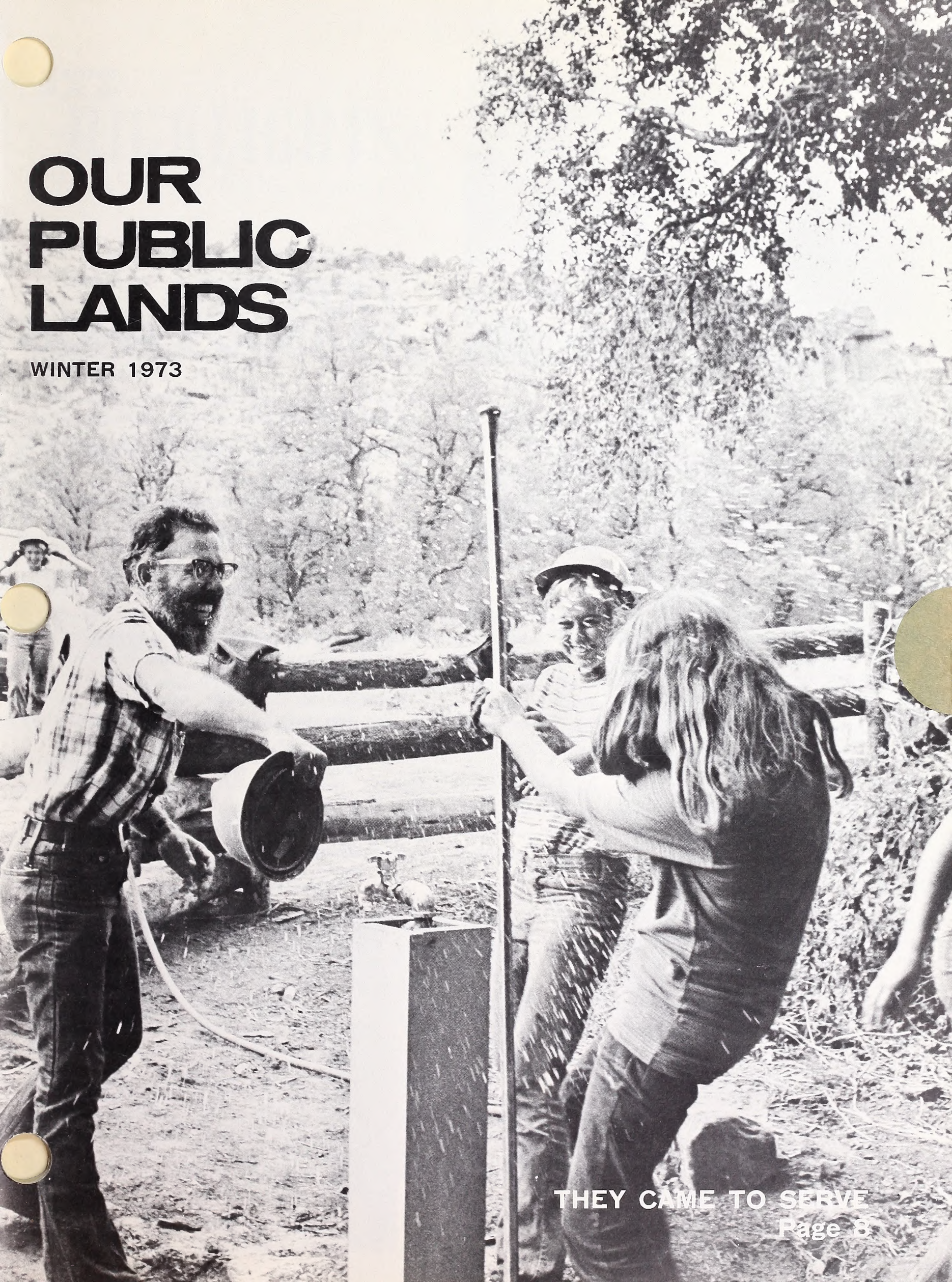
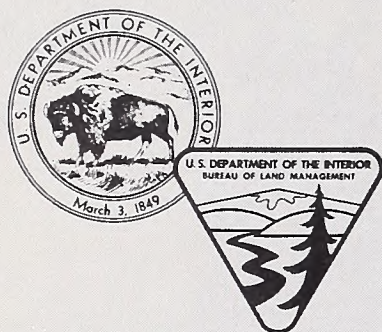


OUR PUBLIC LANDS

WINTER 1973



THEY CAME TO SERVE
Page 8



U.S. DEPARTMENT OF THE INTERIOR
Rogers C. B. Morton, Secretary
BUREAU OF LAND MANAGEMENT
Burton W. Silcock, Director

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

OUR PUBLIC LANDS, the official publication of the Bureau of Land Management, U.S. Department of the Interior, is issued in January, April, July, and October.

Jim Robinson, Editor

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OUR PUBLIC LANDS

Contents

ARCHAEOLOGICAL DETECTIVE WORK . 5

By Floyd E. Ewing
Indian beads were the clinching evidence

THEY CAME TO SERVE 8

By Ed Hamberger
". . . not an end,
but a beginning . . ."

SOLITUDE IN THE GUNNISON GORGE . 13

By Donald W. Wirth
"The world is too much with us . . ."

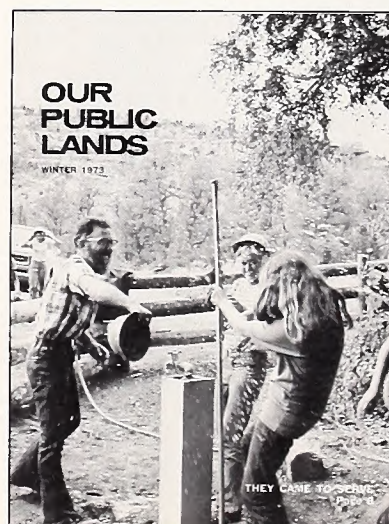
FOR THE DEER ON BLUE MOUNTAIN . 17

By Robert Jensen and Francis Cherry
Children grew the seeds right in their
classrooms

ADVENTURE IN UNDERSTANDING . . 20

By James F. Riley
Conservationists view how land use con-
flicts are resolved

PUBLIC SALE BULLETIN BOARD . . 22



THE COVER

Hard work relieved by high jinks were the notes for those who came to serve in Youth Conservation Corps camps on public lands last summer. (Photo by Grand Junction Sentinel)

HIGHLIGHTS

2 Primitive Areas, Natural Area Dedicated in Montana Ceremonies

Two Primitive Areas and a Natural Area on public land in Montana have been dedicated for protection and public enjoyment by Secretary of the Interior Rogers C. B. Morton.

The areas dedicated have been withdrawn from all forms of disposal under the public land laws, including mining, and set aside for specific management purposes.

The three areas, completely separated from each other, total 12,000 acres of natural beauty, scientific importance, and recreational values.

Humbug Spires, where the dedication ceremonies were held for all three areas, consists of 7,041 acres of towering white granite spires located 30 miles south of Butte in southwestern Montana. The land was designated as a Primitive Area.

The spires rise as high as 600 feet above the surrounding mantle of ponderosa pine, attracting geologists, hikers, sightseers, and rock-climbers to the area.

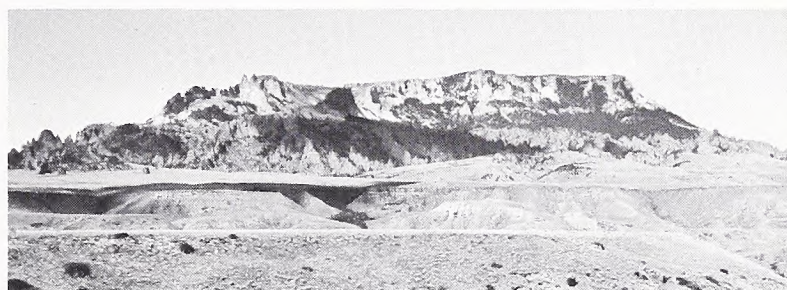
Bear Trap Canyon, which was also designated a Primitive Area, encompasses a scenic 9-mile gorge cut by the Madison River 30 miles west of Bozeman in southwestern Montana.

The 1,047 acre Square Butte Natural Area, 50 miles east of Great Falls in north central Montana, is a major study area for geologists and other natural scientists.

The top of the butte is a flat plateau, inaccessible to



Bear Trap Canyon



Square Butte

domestic livestock and thus one of the few remaining examples of native western rangeland. Its isolation has preserved it as one of the most unique geological and flora areas of the continent.

Secretary Morton said in dedicating these lands that "their natural beauty, scientific importance, and recreational values all make it imperative that we protect these areas from further encroachment by civilization.

"Americans today and in the generations to come will be able to share the awe and exhilaration which Lewis and Clark felt when they first explored this part of Montana."

Secretary Morton speaking at Montana dedication.



Humbug Spires





Gunnison Gorge Recreation Lands



Assistant Secretary Loesch dedicates Colorado lands.

Gunnison Gorge Recreation Lands, Needle Rock Natural Area Dedicated in Colorado

A 16-mile strip of rugged and scenic canyon country on Colorado's western slope, all of it public land, has been dedicated as the Gunnison Gorge Recreation Lands.

The 30,000-acre Recreation Lands lie along the Gunnison River northwest of the Black Canyon of the Gunnison National Monument and east of Delta and Montrose, Colo.

The lands dedicated have been withdrawn from all forms of appropriation under the public land laws, including mining, and set aside for public recreational use.

The Gunnison Gorge area is mostly steep canyon walls and rocky hillsides, with elevations varying from 5,200 feet on the canyon floor to 7,900 feet at the top of the rim. The outer rims are walls of bright sedimentary rock flaring back from the narrow inner gorge of dark granitic cliffs.

In dedicating the new Recreation Lands, Assistant Secretary of the Interior for Public Land Management Harrison Loesch, a Montrose native, pointed out that BLM "considers the recreational resource as one of our priority management responsibilities." (See *Jewels in the Crown*, p. 14.)

He emphasized that the Bureau's recreation program

will not encourage "elbow-to-elbow" crowds in "large, complex, ultra-developed recreation areas promising something for everyone."

As an example, Secretary Loesch pointed out that Needle Rock, a prominent volcanic spire 15 miles east of the Gorge, was included in the dedication as a Natural Area.

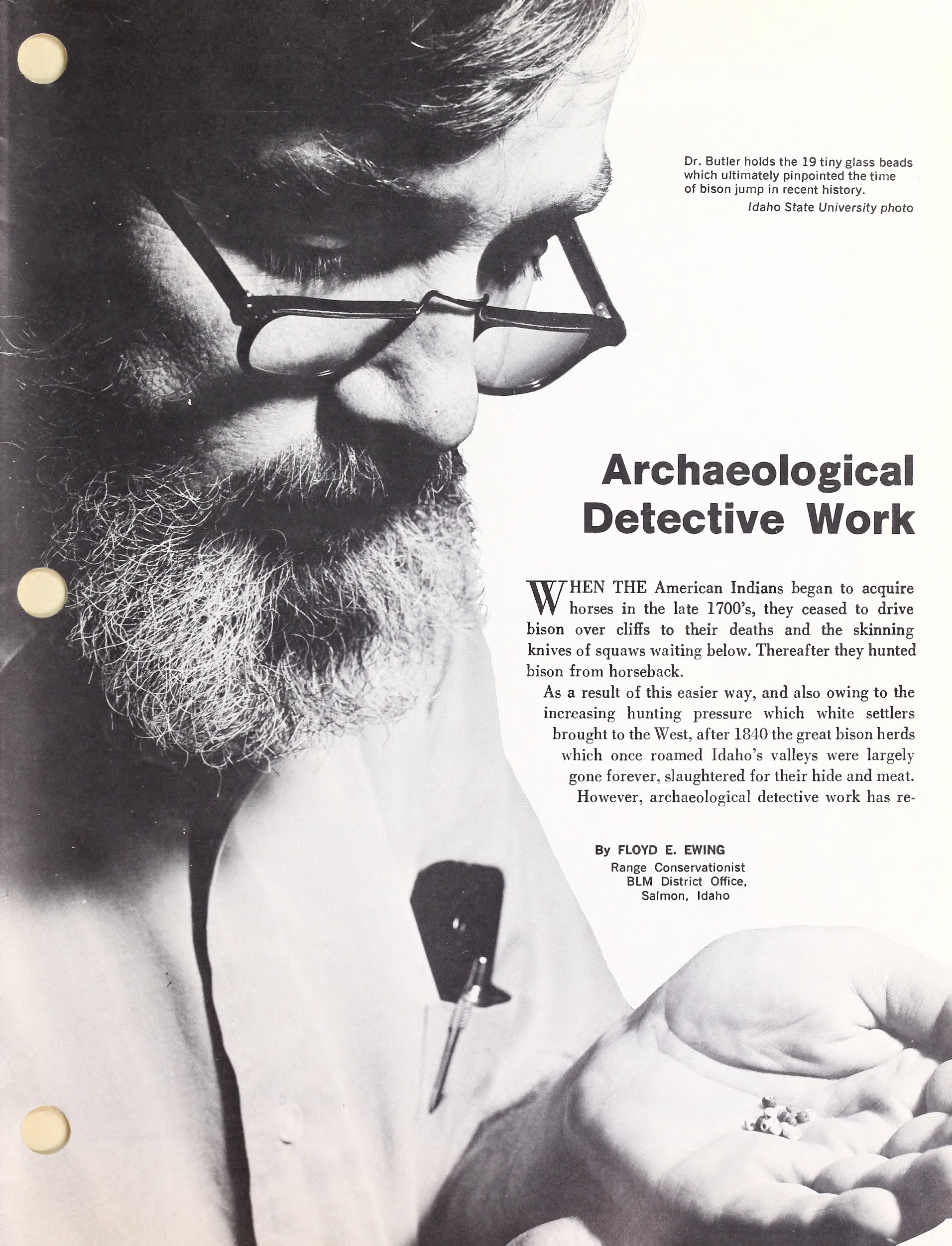
He said that although Needle Rock is only 80 acres in size, its uniqueness qualified it for inclusion as an "island of recreation and beauty."

"It is this unique island or pocket of recreation which we seek to protect and manage. We want to offer you the satisfaction of finding your own experience, without tripping over everyone."

OUR PUBLIC LANDS Magazine Will Cost \$2 Per Year

OUR PUBLIC LANDS magazine, the official quarterly publication of the Bureau of Land Management which for the past 5 years has sold for \$1 per year, will now cost subscribers \$2 per year after their current subscription expires.

The Government Printing Office, which publishes and distributes the magazine for BLM, said the new subscription price was a result of increased printing and mailing costs.



Dr. Butler holds the 19 tiny glass beads which ultimately pinpointed the time of bison jump in recent history.

Idaho State University photo

Archaeological Detective Work

WHEN THE American Indians began to acquire horses in the late 1700's, they ceased to drive bison over cliffs to their deaths and the skinning knives of squaws waiting below. Thereafter they hunted bison from horseback.

As a result of this easier way, and also owing to the increasing hunting pressure which white settlers brought to the West, after 1840 the great bison herds which once roamed Idaho's valleys were largely gone forever, slaughtered for their hide and meat.

However, archaeological detective work has re-

By **FLOYD E. EWING**

Range Conservationist
BLM District Office,
Salmon, Idaho

Indian beads were the clinching evidence



You don't just dig. A trench is carefully staked out before as much as a spoonful of earth is lifted.

Arrow (top center) points to almost buried entrance to cave where carnivores dragged their prey sometime before the 7th Century. White band toward the bottom of the stratigraphic cut is volcanic ash.



Over this cliff Indian hunters drove bison to fall under the waiting knives of the squaws.



Photos on pages 6 and 7 Idaho State University Museum.

Dark streak in center is decomposed organic matter and remains of insects which fed on the abandoned bison carcasses.



led an incident of a buffalo jump on public land about a century ago near Challis, Idaho. John Ivie, a respected amateur archaeologist from Challis, was the first to report the probability that Indians in the Idaho of the 19th century had revived the bison jump practice long after other Indians had abandoned it, and after bison were believed to be too scarce to be found in herds anymore.

The evidence which Ivie found was later examined from an excavation on public land administered by the Bureau of Land Management. The scientific sleuthing which verified his report involved the expertise of anthropology and archaeology. The excavation was made under the direction of B. Robert Butler, curator of archaeology and associate professor of anthropology at Idaho State University.

Assessing the evidence, Dr. Butler declared that a herd of from 15 to 20 bison had been driven over the escarpment by Indian braves on foot and slaughtered by Indian women waiting below. Bison bones and projectile points found in the excavation made the determination of the bison jump a surety.

Proving that the time was so recent was a different matter, however. The significant and clinching proof came to light only after 19 tiny glass beads were sifted

out of the stratified layers of the excavation. Dr. Butler showed the beads to Roderick Sprague, head of the Department of Anthropology at the University of Idaho. Dr. Sprague, who is a historical archaeologist, pinpointed the beads in historical time. He said they undoubtedly had been scuffed off an Indian jacket or moccasin "probably between 1860 and 1880, and no earlier than 1840."

The Indians were probably members of the Tukudeka tribe, mountain men (their name meant "mountain sheep eaters") and traditionally horse-poor in contrast to the Lemhi Indians of the valleys who possessed much wealth in their horses. The Tukudeka, along with the Bannock and Shoshone Indians, were culturally absorbed into the Lemhi tribe sometime in the mid-1800's. (See "Chief Tendoy: Peace Ambassador" in the Fall 1972 issue of OUR PUBLIC LANDS.)

Just why and how as many as 15 or 20 bison were still alive at this time has not been determined precisely. Perhaps it may have been owing to the vastness of the still unsettled west of the time. Whatever the reason, an isolated pocket of mountain-plains geography in east-central Idaho protected the animals and enabled them to survive until the enterprising Tukudeka revived the ancestral custom of former bison hunts. □



Hunters and squaw butchers remove front and hind quarters and the hump from the site, left only lower leg bones, ribs, and vertebra.

They Came to Serve



On the Dominguez Campground, the Grand Junction youth built outdoor toilets.
Grand Junction Sentinel photo

"... not an end, but a beginning"

IN SMALL groups they gathered. In Alaska and Florida, in Maine and Oregon, in South Dakota and Texas, they came together in bands of 20 to 40. From all walks of life, from different social and economic backgrounds, they joined together to enhance the world in which they lived. With a youthful zeal, they shared a common cause: They wanted to help improve America's environment.

Under the sponsorship of the U.S. Departments of the Interior and Agriculture, over 3,000 young men and women were recruited last summer to help stem the rising tide of environmental degradation. The summer's work included building fences around picnic areas, seeding pastures, improving wildlife habitat, constructing dams to prevent erosion, and other conservation projects.

By **ED HAMBERGER**
Public Information Specialist
BLM, Washington, D.C.

The program, known as the Youth Conservation Corps, has completed the second of a 3-year pilot program. With the aid of \$3.5 million appropriated by Congress, the Departments were able to establish 96 camps throughout the Nation during the summer of 1972.

The Bureau of Land Management played an integral role in the program, administering six camps on national resource lands. Other agencies in Interior which administered camps were the Bureau of Reclamation, Bureau of Indian Affairs, Bureau of Sport Fisheries and Wildlife, Office of Territories, and the National Park Service.

For each camp, a public school or other youth service organization was named to recruit and process candidates who lived within a nearby designated area. The applicants to the program had to show an interest in the conservation of the nation's natural environment and to have no history of criminal behavior. Since the program began 2 years ago, the number of applicants has soared, refuting those who claim that American youth are too lazy to work.

The camps were run on both a residential and non-residential basis and most camps were coeducational. Although the initial concept of coed camps caused some raised eyebrows, a healthy spirit of both cooperation and competition prevailed. In fact, in a number of instances, the coed groups outperformed the all male groups.

The YCC program has three objectives:

(1) Do conservation work that is needed to improve the quality of our lands and waters;

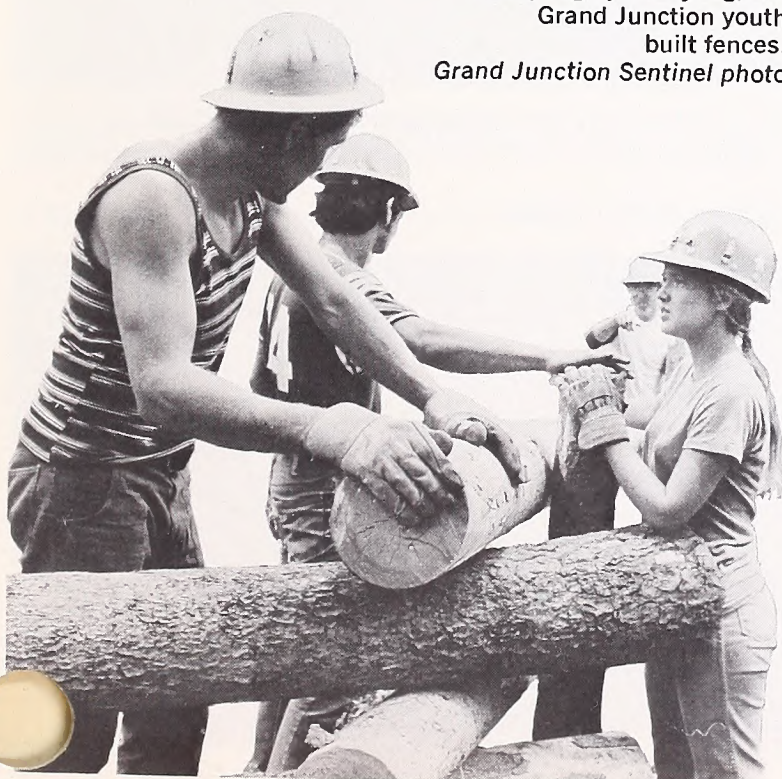
(2) Provide 8 weeks gainful summer employment for the nation's youth;

(3) Create a reserve of environmentally aware young citizens, knowledgeable of their country's irreplaceable heritage of natural and historic resources—and of their own place in the life cycle. Based on the results of the first 2 years experience, the program is meeting its objectives.

The appraised value of the work projects carried out in all YCC camps during the summer of 1972 was estimated at \$2.5 million. This represents a return of almost 70¢ on each dollar appropriated; moreover, because of YCC assistance, the projects were completed ahead of schedule. The six BLM camps had a higher than average return, completing projects valued at over \$10,000 after an initial expenditure of \$180,000.

During the 2 years of its operations, the YCC employed a total of over 5,000 student-workers. The pay was set at \$10.50 per day with adjustments for room and board at the residential camps. Most workers ended their summer with a nest egg of about \$350.

Heavy log by heavy log, the
Grand Junction youth
built fences.
Grand Junction Sentinel photo



Concentrating on what was considered to be the most important of the three goals, the Department furnished over 500,000 hours of informal instruction and many educational field trips to sites such as commercial fisheries, powerplants, or waste disposal facilities. Many of the counselors were high school science teachers who helped to clarify the role man plays in the life cycle.

The Bureau of Land Management's camps were located in Fairbanks, Alaska; Salem, Oreg.; Grand Junction, Colo.; Carson City, Nev.; Las Cruces, N. Mex.; and Belle Fourche, S. Dak. These YCC camps employed a total of 144 young men and women last summer. After working on projects varying from erosion control to wildlife studies, from building campsites to timber stand improvement, and from enhancing recreational lands to range improvement, the students came away with a greater awareness of the environmental problems facing America and with a firm resolve to do something about them.

Although each camp performed a wide variety of duties, a special project characterized each. In the area of timber stand improvement, Oregon's camp led the way. Throughout the 8-week period, crews of workers were stationed at the Molalla Timber Management area and the Walter Horning Tree Seed Orchard.

In the orchard, they cultivated seedlings, pruned foliage on root stocks to allow grafted cuttings from superior trees to gain dominance of the potential seed trees, and constructed 11½ miles of fence around a 320-acre tract scheduled for future development. The fence will be needed to protect the young trees in the future orchard from browsing wildlife.

In the timber management area, the students helped in cruising and marking operations. These jobs entail estimating the volume of trees presently growing in an area, figuring the maximum volume that the area can support, and marking those trees that should be removed. The maximum supportable volume is based on



Safety-goggled and hard-hatted Alaskan youth using a router to make signs.

the condition of the soil and rainfall. Thinning the stand allows each tree to get the nutrients and sunlight it needs.

Construction of a camping site received first priority among the 24 enrollees at the Grand Junction, Colo., camp. Starting with a picnic area, the youths turned Dominguez Campground into a first rate site which can accommodate nine family units.

They dealt with every aspect of camping: clearing areas for parking, providing latrine facilities, repairing and painting picnic tables, and constructing a fence to enclose the 4½ acre area. The crews also built gabions (small breakwaters) in Dominguez Creek to create pools to improve fish habitat and contoured the creek banks to prevent flooding.

Range development received the major share of attention at the Belle Fourche, S. Dak., camp. There the enrollees helped construct two artificial watersheds to store water for livestock in areas where reservoirs or wells were not feasible. The installation was a long and arduous process.

First, the workers cleared and graded an area 90 x 116 feet; on top of this they stretched a butyl rubber sheet which acted as the collection point for rainwater. Then they dug a large hole at the lower end of the artificial watershed and fitted it with a butyl rubber bag which served as the storage tank for the water. The rubber sheets were secured by a berm (or curb) of earth around the perimeter.

The entire area was enclosed by a fence for protection from livestock. Because each watershed can collect and store as much as 50,000 gallons of water, the grazing allotment manager can utilize pastures which would otherwise be unusable.

The enhancement of a recreation area occupied most of the time of the enrollees at the Las Cruces, N. Mex., camp. Working in the Organ Mountain Recreation Lands, the youths improved many of the trails, constructed two primitive campsites, and rehabilitated established campsites by reseeding meadows, planting tree seedlings, and cleaning up litter.

Their biggest project, however, was constructing the San Augustin Wayside, an overlook and interpretive site located near the White Sands Missile Range. On days firings are conducted, hundreds of motorists are halted on the road running past the range.

The Corps members built an impressive stone and wood building about 1,000 feet from the road to allow the delayed travelers to witness the tests. The youths also constructed a 15-foot-wide path leading to the overlook, which will be equipped with interpretive devices to help the viewer understand what is happening.



Splitting wood for 5 recreation sites required help from everyone at the Salem camp.



Fir seedlings were transplanted from the Horning Seed Tree Orchard after these thinning operations.

Kitchen police in Alaska.





A picnic shelter in the New Mexico Organ Mountains needed touch up painting.



Thin plastic sheets became shelter for the Belle Fourche youth.



Constructing an artificial watershed at the Belle Fourche camp.

It was hot, dry work laying a waterline in Nevada.



The crew from the Las Cruces camp built the San Augustin Wayside overlooking the White Sands Missile Range.

Building pasture fences at the Carson City camp.



Two assignments typified the way the Belle Fourche YCC youth immersed themselves in learning by doing. One was a planned survival experience taught by an Air Force instructor; the other involved how to eradicate cocklebur from pasture rangeland which is grazed by sheep.

On the survival trip, the youth spent 2 days and a night in the open—they would have spent another night and a day if an inch of rain in a 2-hour period hadn't interfered the first night out. The art of building a shelter became very important at 2:30 a.m.

Lectures and demonstrations on field trips introduced the youth to the basic survival techniques. Constructing snares to capture wildlife took on practical meaning when it came to eating. A rabbit was no longer a "cute little bunny," but rather the means to survival. "Haul him in!" was the battlecry that surrounded the fishermen.

The youth learned how important water can be, both too little and too much. "Where the blazes is the water?" was the cry that came forlornly from the bottom of dry streambeds.

Navigation by map and compass was suddenly a practical solution to learning where one was, but more important, how to find one's way out again.

When the youth took on an assignment to remove cockleburs from an area 6 miles long and varying from 10 to 100 feet wide—with hoes—a discussion of alternatives was entered into seriously. The use of herbicides was considered, and many of the youth felt that spraying such a "small area" wouldn't hurt.

But they also discussed plant food use by domestic livestock versus wildlife, plant identification, watershed management, the leasing of public lands, economics of sheep raising, silt deposition, and the environmental involvement of the taxpayer.

Two sheep ranchers were brought in to discuss the cocklebur problem, and they gave their reasons why they thought the affected land area should be sprayed. A local woolbuyer visited the camp and gave the youth the economic aspects of wool with cockleburs in it.

After lengthy discussion from a more informed point of view than that with which they had begun, the youth decided that the easiest way was to quit grazing sheep in the area, but alternatives would be to hand spray or to hire a shepherd.

The study of wildlife and the preservation of wildlife habitat were two major activities at the Carson City, Nev., camp. One of the most important projects was seeding bitterbrush by hand on 160 acres of a key winter deer area in Fay Canyon.

The crews also built pasture fences in the wildlife management area of Jack's Valley, installed two "guzzlers" or water tanks for upland game birds and small mammals, and improved 13 other water sources that can be used for livestock and larger wildlife, including wild horses.

Because the important nesting areas around Alkali Lake south of Carson City were in danger of being trampled by grazing livestock, the YCC built a protective fence to allow the waterfowl to raise their young.

In Alaska, the key words were recreation and fire trail rehabilitation. The 20 campers helped reseed and fertilize an 8 mile fire trail north of Fairbanks. The group also marked snowmobile trails with hand-painted signs along firebreaks on Wickersham Dome. This is one of the first times that a fireline has been used for recreational purposes.

In a large project within the Cripple Creek Recreational Withdrawal Area, the youths restored a trapper's cabin for use by campers. They replaced broken windows, repaired the floor and roof, installed a new wood burning stove, built bunk beds and a table, constructed a privy, and filled a nearby shed with firewood.

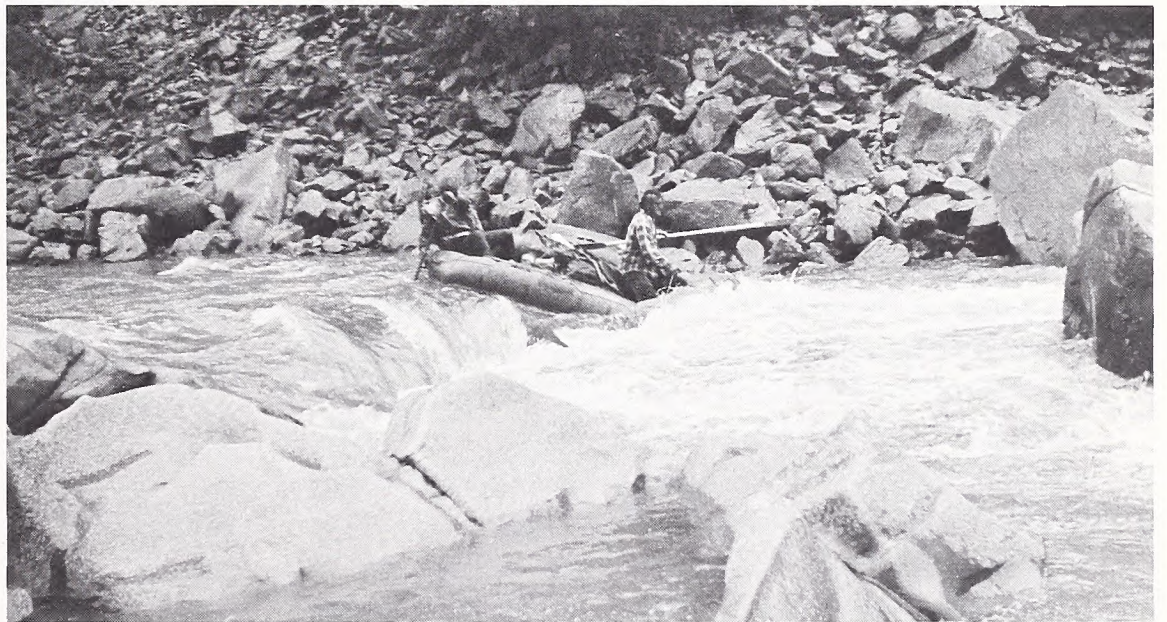
One of the special annoyances that the campers in Alaska faced was harassment by the infamous Alaskan mosquitoes. The campers asked, however, that the areas not be sprayed against mosquitoes to demonstrate their concern for this kind of environmental pollution.

In all six of the YCC camps which were sponsored by the Bureau of Land Management, many important projects were completed. But more than this was the value of the education of the campers themselves. Although most of the education was informal, resulting from on-the-job training, some camps did engage in formal classroom instructions. The programs at Grand Junction and Belle Fourche, for example, have been accepted for academic credit by their State public school systems.

The goal of the YCC program is to enhance the lives of the students who participate, to etch in their minds a picture of what America's environment should be, and to inspire them to work to make reality fit the ideal. One young Corps worker summed it up neatly: "The YCC program is not an end, but a beginning. It is a beginning to awaken you and me to a cleaner, happier world." □

Jewels in the Crown

GUNNISON GORGE—Among the 450 million acres of public lands administered by BLM are areas which are exceptional for their signal beauty and unusual qualities. These are the Crown Jewels of the public lands.



One more step down the river's staircase of rapids.

Adventure, perhaps danger, wait around each curve.



Solitude in the Gunnison Gorge

"The world is too much with us . . ."

IN COLORADO's Gunnison Gorge, knifing down through more than 12 million centuries of the earth's mantle to the anchored bedrock of the eternal hills, history has left a carved record of Nature's tumultuous work. The geologic record so plainly written on the craggy walls of the Gorge is in strange contrast to the solitude which the deep cleft provides today.

Gunnison Gorge begins where the Gunnison River flows north from the Black Canyon of the Gunnison National Monument and extends to the confluence of the Gorge and the North Fork west of Hotchkiss, Colo.

Nearly all of this land is public domain administered by the Bureau of Land Management. A 25,161-acre segment has been withdrawn from all forms of disposal under the public land laws, including mining, and designated as the Gunnison Gorge Recreation Lands. (See News Highlights, p. 3.)

Solitude is here for enjoyment, and likely to remain so, for access into the Gorge is difficult. Throughout its 14-mile length, less than a half a dozen trails exist on either side of the Gorge, unmarked, known only to the mountain climbers and fishermen who penetrate this fastness.

In places the cliffs rise 1,000 feet, nearly vertical. Sometimes the cliffs immediately adjacent to the river rise only 400 or 500 feet from the water, and a mile or so back from the river surface you can see the ridges which loom 1,400 feet above the water.

The stream is calm for as much as a quarter of a mile in spots, but where the river narrows to less than 40 feet there are numerous small rapids. These rapids often occur where smaller canyons empty seasonally into the river, where large rock slides have partially blocked the

river course, or where boulders as big as a house split the channel.

One of the toughest rapids is toward the north end of the Gorge, several miles south of the Smith Fork Drainage, where the water drops more than 30 feet in 100 yards.

Geologic historians say that Colorado has been wholly or partially submerged by invasions of ancient seas at least four times. Each time layers of sediment remained when the seas receded. Fossil remnants of marine and dry land creatures are evident in these sedimentary layers in various places around the State. Luxuriant tropical plant growth which was covered and compressed a mere 80,000 centuries ago is responsible for some of Colorado's coal deposits just 15 miles to the northeast.

After the last invasion of the seas, some 75 million years ago, the dinosaurs flourished and in turn became extinct as geologic, climatic, and evolutionary changes eliminated them. About 70 million years ago the basic mountain structure of the region was formed as a great warping and faulting movement gradually elevated the entire area above the surrounding plains, folding and tilting granite and sedimentary strata into jagged skyscraping ranges. As the masses of rock layers were pushed upward, ash from volcanic disturbances spread more layers of sedimentation over the area.

The last of the great continental glaciers did not penetrate as far south as Colorado. Extensive alpine glaciers and the constant cutting by water have sculpted the mountain masses to their present contours.

White water boating
at its best.

By DONALD W. WIRTH

Geologist
BLM District Office, Montrose, Colorado

The Gunnison Gorge is an example of water erosion. The river has dug its way through layer after layer of upper strata, clear to the "basement rocks" of the Precambrian era of from 1.2 billion to 2 billion years ago. The Gunnison's waters follow an ancient path as they pour along to join the Colorado River near Grand Junction and then begin the long twisting journey to the Gulf of California many hundreds of miles to the southwest.

The solitude of the Gunnison Gorge comes through strongly on the water's surface. Floating this stretch of the Gunnison provides a closeup view of the beauty of nature and enables boaters to read the pages of geologic history written on the walls of the Gorge.

One recent spring weekend, five fishermen from the nearby communities of Montrose and Gunnison floated the river for 3 days and relaxed in the solitude they found despite seasonal spring rains which kept them off the river for an entire day.

Getting to the river in the first place was not easy. Inflatable rubber boats, gear packed in waterproof bags, and supplies had to be packed down to the river. The group chose an entry point about 10 air miles northeast of Montrose where there is a four-wheel drive road that goes to some old undeveloped gypsum mining claims.

The locale is known by several names: Chukar Gulch, Olathe Gap, or Wiggins Trail. The entry point is located east of Brush Peak and northwest of Red Rocks. There were no signs to show the way.

At the top of the draw, the elevation is 6,600 feet. A four-wheel drive can get about 500 feet down the draw, but the river is 700 feet lower. With a light pack, it's possible to get from the car to the river in 20 minutes, but with boats, heavy packs, lots of food, and all the gear, the men had to make three trips down over a 3-hour period.

The two six-man boats were quite a chore, because they had to be deflated to pack down the trails, then blown up again at the river.

A lowering sky which hinted strongly at rain made the group decide to skip lunch in order to get all the gear and supplies down to the launching point at the river. It had rained the day before, and there was fresh snow high on the surrounding ridges that morning. The river, normally a clear, cold trout stream, was unusually muddy, a discouraging condition for the fly fishermen.

After a half mile of boating on the stream, the group beached the boats on a sandbar which led to two big caves that could offer shelter if rain came. Out came the fishing poles and worms, and the catch was five brown trout, ranging from $\frac{1}{2}$ to $1\frac{1}{2}$ pounds, normally a full

meal. However, with no lunch through a period of strenuous backpacking there was still room for salad, potatoes, and New York steaks.

The campers stretched out on the sandbar for sleeping, but at 9 p.m. a drizzle started that persisted throughout the night, all the next day, and even into the third morning. Since the caves were dry, the group just moved the camp "indoors."

On the second day, two more Montrose fishermen hiking down into the Gorge were surprised to find a camping party already occupying the good fishing spots. They were given a lift across the river and made a part of the group to take advantage of the protection offered by the caves.

Although there are hundreds of good pools for fishing along the river, none of the other places was as comfortable during the chill drizzle. The anglers pulled in about 30 trout and lots of big yellow suckers despite the rain which seemed to affect the fishing.

The sandbar and the caves on a quiet stretch of the stream provided an interlude of renewal, of freedom from crowds of people and noise, conditions which are ever present for city dwellers. The poet William Wordsworth in another place and another century understood man's need for solitude when he wrote:

"The world is too much with us. Early and late, getting and spending, we lay waste our powers."

This essential ingredient for well adjusted living, a measure of solitude, is abundant in the majestic grandeur of the Gunnison Gorge's towering cliff walls and the river's waters. Even the rain, a source of annoyance to city dwelling motorists and pedestrians, was tolerable in the quiet of the Gorge.

With the weather beginning to clear on the final morning, the group opted for a continuous trip through the Gorge to finish the outing. The map distance was only 12 miles, but the twisting, turning stream, carving through softer rock, has lengthened the distance until the 12 miles could be actually twice that far.

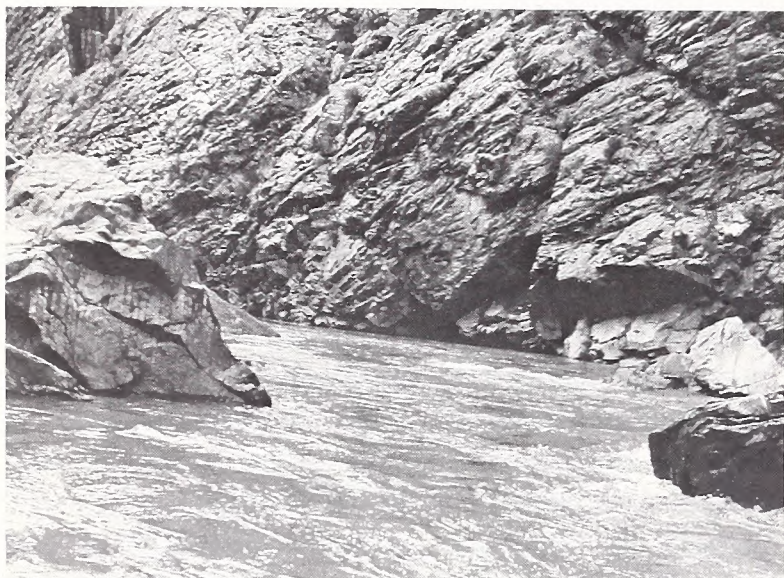
A big breakfast of eggs, bacon, and hotcakes fortified the water travelers for the trip (which took 9 hours). All but the last few miles were through steep, sheer cliffs of hard, resistant Precambrian rock, displaying breathtaking vistas of time.

There was no time to watch the walls when the boats were in the rapids, however. The current tumbled the lumbering craft around too fast. Where large rockslides partially blocked the stream, the force of the rapids pushed the big rubber boats up half out of the water, marooning the boaters. Sometimes it was necessary to get out of the boat, wade the 40-degree water, and push the boat back into the current.

However, when riding along on the placid water between the rapids, the boaters had ample time to view the ancient structures and folds that resulted when igneous molten material cooled and solidified into rock. One rock looked like a silent Indian sentinel overlooking the river.

It was easy to see how early frontiersmen, needing to identify land and water trails for those who would follow, gave picturesque names to landmarks which would be recognized.

Although man has left little evidence of his visits to this idyllic locale, there is evidence in plenty of the wild-life that makes its home in the Gorge. There were hundreds of beaver houses. An occasional eagle or falcon



Boulders as big as houses block the way.



This deserted cabin provided a home for a trapper-miner-hermit in the 1920's.



Sheer cliffs, folds, faults, dikes, and differential mineral intrusions mark the entire route as spectacular igneous rock viewing.

wheeled overhead, its keen eyes alert for prey on the ground. There were ducks, deer, and even bear tracks on one of the sandbars.

Now that the area has been dedicated as the Gunnison Gorge Recreation Lands, some recreational development will follow. Present plans call for overlooks, improved trails, and a scenic drive along the west rim above the Gorge. Visitors will be better able to see the Gorge from either the river surface or the rim, but the very nature of this rugged land will protect it from over-use. Only the hardy will wish to descend its steep slopes, walking down through geologic ages to the beginning of the earth's history. For a long time to come, visitors can find solitude in the Gunnison Gorge. □

For the DEER on Blue Mountain



. . . first you dig a hole . . .



THE DEER herd of Blue Mountain is something special to the 5th graders of Ashley Elementary School in Vernal, Utah. These 11- and 12-year-old students seldom see the deer, because the mountain is 25 miles away. But the youngsters know plenty about one plant which these animals eat: bitterbrush, the kind which the students planted as seeds in milk cartons and later transplanted on the mountainside.

By **ROBERT JENSEN**, Wildlife Biologist
and
FRANCIS CHERRY, River Resource Area Manager
BLM District Office, Vernal, Utah

*Children grew the seeds
right in their classroom . . .*



There were helpers all over at transplanting time.



Nature seemed so slow!



Removing the seedling from the milk carton for transplanting.



. . . then you plant the seedling.



Watching, watering, waiting, the class kept track of the bitterbrush plantings.



Teacher Mortensen and some of his pupils.

Planting bitterbrush as deer browse on Blue Mountain was a joint project of Ashley teachers and men from the Bureau of Land Management's Vernal District Office. The teachers were Val Mortensen, Lowell Long, Tim Kinsey, and Gay Saunders. The Bureau men were Donald Smith and the authors.

This team recognized how important it is for children to understand their environment and its component parts, so they worked out a program to let young students help to protect and improve their natural surroundings.

The team picked Blue Mountain because it has a wide diversity of plantlife and a large wildlife population, and it is easily accessible by paved road.

First the children had a series of lessons about the environment and the relationship between wildlife, livestock, and the forage resource which these animals need for food. Then the students planted bitterbrush seeds in milk cartons right in their classrooms. They anxiously



Not one speck of litter now.

watched during the winter to check on the condition of the plants, looking forward in the spring to transplanting the young plants onto the mountainside.

Finally spring came, bringing the long anticipated bus trip. When the 105 youngsters arrived on the mountain, they scattered from the vehicle like dry leaves in a windstorm. There were other specific assignments to be completed: collecting lichen samples, gathering specimens of sedimentary and igneous rock, bringing back a sample of a fungus. But their real interest was in their gift to the deer. Here and there they dug small holes and carefully transplanted the seedlings from the milk cartons.

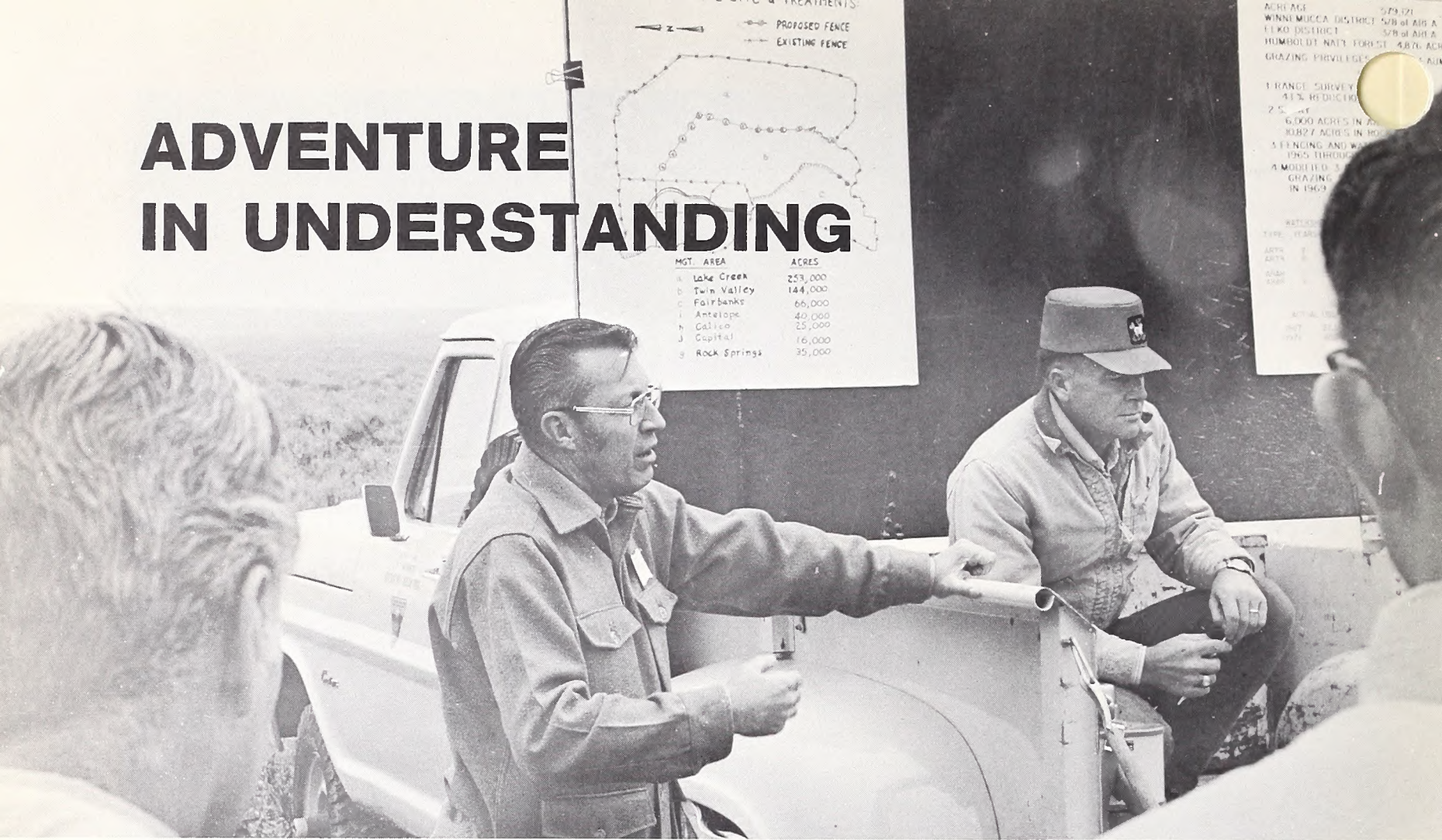
Although the Ashley fifth graders may never go again in a group to Blue Mountain, they know that when the snow lies cold and deep on the land the deer will be able to find food: bitterbrush which the youngsters themselves planted as a gift for the animals. □



Cleanup time.



ADVENTURE IN UNDERSTANDING



The teachers operated from the back of a truck.

Conservationists view how land use conflicts are resolved

ON THE WINNEMUCCA DISTRICT. The land—the public land—is here as it has always been. This is range land, watershed land, land which wildlife needs for food and shelter; and it's land that is being used by a growing number of recreationists.

With careful analysis and planning, which takes public needs into consideration, conflicts among users can be minimized. To assure that land use patterns emphasize the highest values without excluding other legitimate uses, this land is managed under the multiple use concept by the Bureau of Land Management, the Federal custodian of the public domain.

By **JAMES F. RILEY**

Public Information Specialist
BLM State Office, Reno, Nevada

Twenty-six people, conservationists and others, toured some of the land in the Bureau's Winnemucca, Nev., District last fall on invitation to view first hand how some of the land use conflicts are resolved.

BLM experts explained how they analyze all the values of the land and its resources to create a plan that fits a given public land area. The management system they charted for the conservationists in this instance was intensive grazing under rest-rotation.

Then the Bureau demonstrated this management on the land itself to the conservationists who represented nine citizen groups, six professional associations, four State and Federal agencies, two universities, and the press.

The group rode and walked through some 45 miles of prime livestock grazing lands and wildlife habitat in their on-the-ground orientation of two grazing allotments in the Paradise Resource Area. Winnemucca is some 150 miles north of Reno. The District, which covers more than 8 million acres, includes the Paradise Resource Area which is 60 miles north of Winnemucca.

In the Paradise Resource Area the conservation



Wildlife needs the land for food and shelter.



Coffeebreak.

visited the Little Owyhee Allotment and the Sagehen Allotment. Both the Little Owyhee and the Sagehen have been intensively managed under rest-rotation for 6 years, but they are quite different in many ways.

Little Owyhee is huge—500,000 acres. The Sagehen is only 6,200 acres in size, but it has had extensive range land treatment: undesirable range plants have been sprayed to encourage other plant food to grow, and desirable range vegetation has been seeded where necessary.

The contrast between Little Owyhee and Sagehen showed that intensive grazing management—rest-rotation—works in both areas regardless of land treatment.

Under a rest-rotation system, some pastures are designated for a first year for full grazing, others for grazing only after the range plant seeds have ripened, while some pastures are completely rested for an entire grazing year.

In succeeding years, the fields are rotated so that a field which was grazed only after seeds had ripened will be completely rested the following years. A field which was completely rested will be grazed first the following season.

Livestock are grazed on a pasture after seed-ripe so that they will trample the seeds into the ground. In effect, they sow the seeds. Such a pasture will be rested entirely during the following growing season to give the range plants 1 full year for regrowth, food production, and new plant growth.

The full-rest pasture also is available for the exclusive use of wildlife, an important multiple use consideration.

On the Sagehen, for example, the conservationists inspected an area which had been grazed heavily by livestock less than a year ago. Excellent regrowth and a variety of native range plants and new plant growth were evident.

The stockmen and range managers among the tour group helped all of the conservationists to understand that a variety of range plants is necessary in the diets of both wildlife and livestock, and that good ground covering vegetation is conducive to good watershed protection.

The range tour demonstration ended with a Bureau summation and comments from the conservationists and livestock operators. There was general understanding that intensive grazing management and rest-rotation are extremely effective management tools but not cure-alls for all range problems of multiple use involving wildlife, watershed, livestock, and recreation.

However, the conservationists admitted having gained a new respect for the complexities of in-depth planning which is involved in land-use decisions. □

Additional pictures on page 22.

The classroom was right outdoors . . .



This is a compilation of the most up-to-date information possible on up-coming sales of public lands by State Offices of the Bureau of Land Management. For details of land descriptions, prices, and other information pertinent to sales, you must write the individual State Office concerned. In most cases, there are adjoining land-owners who have statutory preference rights and may wish to exercise them to buy the land. Sales notices will point out, insofar as possible, problems relating to (1) access, (2) adjoining owner preference rights, (3) small-tract sales limitation of one per customer, and other pertinent information. When possible, all sales are scheduled far enough in advance so ample notice can be given in Our Public Lands. Sales listed can be canceled on short notice for administrative and technical reasons. A listing of BLM State Offices with addresses is found on the opposite page.

ARIZONA

80 A, identified as A 6624, approximately 35 miles west of Phoenix and 15 miles west of Buckeye. Access available. Land rolling to nearly level, elevation 20 feet. Soil is rocky, sandy loam. No surface water. Utilities in area. Approximate appraised value \$24,000.



CALIFORNIA

240 A in 3 parcels, identified as S-3860, near Canby in Modoc County. Sloping brushy terrain, some grass. County Road access. Suitable for ranchette homesites. Appraised from \$80 to \$100 per acre.

NEW MEXICO

219.86 A, 2½ miles west of Farmington's west city limits. Moderately rolling, open grassland, one large wash, several small drainages. No legal access, physical access via oil field roads. Gas, electricity, and telephone on or near tract. Water line ¾ mile south of tract along U.S. 550. Leased for oil and gas. USA will reserve minerals. Developing area. \$11,000 appraisal.

7 tracts, varying between 735 and 760 acres, 1½ to 2½ miles south of Farmington's south city limits, and ½ to 1½ miles south of San Juan River. High percentage of each tract extremely rough and broken. Paved State Highway 371 crosses 1 tract; remaining tracts do not have legal access. All have physical access via oil field roads. Tracts are under oil and gas leases, and are encumbered with oil and gas wells and associated pipelines, powerlines, and roads. USA will reserve minerals. Approximate appraisal \$25,000 to \$30,000 per tract.

OREGON

30 A, identified as OR 6301, approximately 6 miles south of Rock Creek on east side of John Day River Canyon along rim of river breaks. 20 A have been under dryland wheat cultivation, 10 A supports bluebunch wheatgrass, associated vegetation, suitable for grazing. Appraised approximately \$2,000. No legal public access. Sale after Mar. 1.

40 A, identified as OR 7998, along Deschutes River Canyon breaks in Sherman County, 8 miles southwest of Grass Valley. Average elevation 2,200 feet. Bounded 3 sides wheatfields. Rolling to very steep, vegetation mainly bluebunch wheatgrass. Shallow soil, numerous rock outcrops. No water or utilities. No legal public access. Appraised approximately \$4,000. Sale after Mar. 1.

40 A, identified as OR 8509, 8 miles west of Prineville within 400 feet of paved road connecting Prineville and Terrebonne. On flat bench, soil up to 2 feet deep, historically used for alfalfa production. Vegetation consists of various annual grasses. Main value for limited grazing. No legal public access. Appraised approximately \$4,000. Sale after Mar. 1.

80 A, identified as OR 8589, on east side of John Day River along Scott Canyon, 2½ miles southwest of Rock Creek in Gilliam County. 56 A tillable, above average for dry land wheat farming. Remainder bluebunch wheatgrass, associated vegetation, suitable for grazing. No legal public access. Appraised approximately \$6,100. Sale after Mar. 1.

40 A, identified as OR 8326, 5 miles south, 1 mile west of Rock Creek in Gilliam County, on east side of John Day River Canyon along river breaks rim. Contains 34 A cultivated land, 6 A native forage. Cultivated land above average for dry land wheat production for area soils. No legal public access. Appraised approximately \$3,350. Sale after Mar. 1.

WYOMING

40 A, about 15 miles south of Laramie in Albany County. Tract surrounded on all sides by privately owned lands, no legal access. Topography gently rolling. Query Wyoming State Office for costs and other details. Sale after Feb. 1.

BUREAU OF LAND MANAGEMENT

ALASKA:

555 Cordova St.
Anchorage, Alaska
99501

516 Second Ave.
Fairbanks, Alaska
99701

ARIZONA:

Federal Bldg.,
Room 3022
Phoenix, Ariz. 85025

CALIFORNIA:

2800 Cottage Way,
Room E-2841
Sacramento, Calif.
95825

1414 University Ave.
Riverside, Calif.
92502

COLORADO:

1600 Broadway
Room 700
Denver, Colo. 80202

IDAHO:

Federal Bldg.,
Room 334
550 W. Fort St.
Boise, Idaho 83702

MONTANA (N. Dak., S. Dak.):

Federal Bldg.
316 North 26th St.
Billings, Mont. 59101

NEVADA:

Federal Bldg.,
300 Booth St.
Reno, Nev. 89502

NEW MEXICO (Okla.):

Federal Bldg.
P.O. Box 1449
Sante Fe, N. Mex.
87501

OREGON (Washington):

729 Northeast
Oregon St.
P.O. Box 2965
Portland, Oreg. 97208

UTAH:

Federal Bldg.
125 South State St.
P.O. Box 11505
Salt Lake City, Utah
84111

WYOMING (Nebr.,

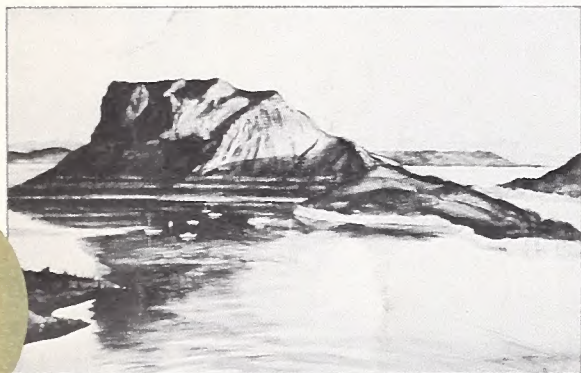
Kans.):
2120 Capitol Ave.
P.O. Box 1828
Cheyenne, Wyo.
82001

ALL OTHER STATES:

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